



Percutaneous Hepatic Arterial Perfusion of Melphalan with Venous Filtration

You have been scheduled for a procedure called percutaneous hepatic arterial perfusion with venous filtration. “Percutaneous” means through the skin. “Hepatic” refers to the liver. “Arterial perfusion” means that an artery will be used to deliver chemotherapy (melphalan) to the liver. A vein leading away from the liver will carry the chemotherapy out of your body and back to a catheter, which is attached to a filter system (venous filtration). This returns the filtered blood back to your body

This is a new method to treat liver tumors that cannot be removed by surgery. The procedure uses melphalan in a new way, in the hopes of reducing the tumor’s size.

Preparation:

- A radiologist will meet with you to explain the procedure. He or she will review the risks of the procedure and answer your questions. When you understand what will happen, you will be asked to sign a consent form giving us permission to do the procedure.
- Since you will be under general anesthesia for this procedure, staff of the Department of Anesthesia and Surgical Services will meet with you to discuss how you will be sedated.
- You will have a physical exam, a CT (computed tomography) scan of your chest, abdomen, and pelvis, and an MRI (magnetic resonance imaging) scan of your liver. You will also have blood tests, a chest x-ray, an EKG, and other tests your doctor feels are necessary.
- Do not drink or eat anything after midnight, the night before the procedure.
- I.V. (intravenous and arterial) lines will be started to give you fluids, medicines, and to monitor your blood pressure.
- A urinary catheter will be placed to check your urine output.

Procedure:

- You will need to have tubes (catheters) placed for this procedure. First, your skin will be cleansed where the catheters will be placed. Then, a local anesthetic will numb these areas.

- Using ultrasound and fluoroscopy, a radiologist will insert the catheters into veins in your neck or under your collarbone and into arteries and veins in your groins. These tubes help isolate the liver's blood system from the rest of your body.
- The catheters inserted in your groin(s) will be moved into the arteries and veins supplying blood to your liver. Contrast dye will be injected and an x-ray will be taken to check the artery supplying blood to your liver.
- A special double-balloon catheter will be moved into the area that drains the liver: the large vein returning blood to your heart.
These catheters allow melphalan to travel through your liver to treat your tumor.
- Melphalan will be infused through one of the catheters going into the liver arteries.
- After melphalan has traveled through your liver, the medication will be removed from your blood by an external pump and filter. Your filtered blood will be returned to you through the catheter in your neck.
- Your vital signs (heart rate and rhythm, blood pressure, breathing, and temperature) will be constantly checked during the procedure. From time to time, your blood will be drawn for lab tests to check the melphalan levels in your blood.

After the Procedure:

- You will be taken to the surgical ICU (2J) where you will be closely monitored for at least 24 hours.
- The sites where the catheters were placed will be closely watched for bleeding and swelling.
- Your pulse will be checked and your vital signs (blood pressure, EKG, breathing and oxygen saturation, temperature and urine output) will be closely monitored.
- You will stay on bed rest for 12 hours or as ordered by your doctor.
- You will receive injections and medications through your I.V. when you need them to reduce pain and nausea. You may also receive blood products during or after the procedure.

Please let your nurse know if you feel pain, nausea, or other symptoms.

If you have any questions about this procedure, please ask. Your nurse and doctor are always ready to assist you.

**Special
Instructions:**

If a medical emergency arises after you are discharged from the Clinical Center and you need immediate help, go to the nearest emergency room or contact your local doctor.

Contact NIH for routine questions or problems. During the day, call Dr. Alexander's office at 301- 496-5049. After 4 p.m. on weekdays, or on weekends and holidays, call the NIH page operator at 301-496-1211 and ask the page operator to page the surgery fellow on call.



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Questions about the Clinical Center? OCCC@cc.nih.gov

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